

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of VON MERVELDT

Application No.

Examiner:

Filed: Herewith

Group Art Unit:

For: BULK BAG

**CLAIM OF FOREIGN PRIORITY AND SUBMISSION OF CERTIFIED COPY OF  
FOREIGN PRIORITY APPLICATION**

Mail Stop Patent Applications  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Priority under the International Convention for the Protection of Industrial Property and under 35 U.S.C. §119 is hereby claimed for the above-identified patent application, based upon South African Application No. 2003/1190, filed February 13, 2003. A certified copy of the priority application is submitted herewith, which perfects the claim to foreign priority.

Respectfully submitted,

Date: 2-9-04

Docket No. 9650-7

  
\_\_\_\_\_  
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{WP167795;1}

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## *Sertifikaat*

# REPUBLIC OF SOUTH AFRICA

*PATENT KANTOOR  
DEPARTEMENT VAN HANDEL  
EN NYWERHEID*



## *Certificate*

# REPUBLIEK VAN SUID-AFRIKA

**PATENT OFFICE**  
**DEPARTMENT OF TRADE AND**  
**INDUSTRY**

Hiermee word gesertifiseer dat  
This is to certify that

the documents annexed hereto are true copies of:

Application forms P.1, P.2, provisional specification and drawings  
of South African Patent Application No. 2003/1190 as originally filed  
in the Republic of South Africa on 13 February 2003 in the name of  
**TELEGENIX TRADING 954 CC** for an invention entitled:  
**“PALLET BAG”.**

Getekken te **PRETORIA** in die Republiek van Suid-Afrika, hierdie **5<sup>th</sup>** dag van **February 2004**  
Signed at **in the Republic of South Africa, this** day of **February 2004**

*B. Goepfert*  
Registrar of Patents

REPUBLIC OF SOUTH AFRICA  
PATENTS ACT, 1978

Form P 1

APPLICATION FOR A PATENT AND ACKNOWLEDGEMENT

[Section 30 (1) —Regulation 22]

The grant of a patent is hereby requested by the undermentioned applicant on the basis of the present application filed in duplicate.



Official Application No.  
21 01

(i) Applicant's or agents reference

REGISTRATEUR VAN PATENTE, MODELLE,  
HANDELSMERKE EN OUTEURSREG

(ii) Full Names of Applicant(s)

71 TELEGENIX TRADING 954 CC  
2002/0613/23

(iii) Addresses of applicant(s)

72 Plot 240, 3rd Road, Chartwell, RANDBURG

(iv) Title of Invention

54 Pallet Bag

The applicant claims priority as set out on the accompanying form P2.

This application is for a patent of  
addition to Patent Application No.

21 01

This application is a fresh application in terms  
of section 37 and based on Application No.

21 01

(viii)

This application is accompanied by:

- 1 A single copy of a provisional or two copies of a complete specification of 8 Pages
- 2 Drawings of ..... 2 ..... sheets.
- 3 Publication particulars and abstract (form P 8 in duplicate).
- 4 A copy of Figure ..... of drawings (if any) for the abstract.
- 5 An Assignment of invention.
- 6 Certified priority document(s) (state number).
- 7 Translation of the priority document(s).
- 8 An assignment of priority rights
- 9 A copy of the form P 2 and the specification of S.A. Patent Application No.
- 10 A declaration and Power of Attorney on form P 3.
- 11 Request for ante-dating on form P 4.
- 12 Request for classification on form P 9.
- 13

21 1

74 Address for service:

P.O. Box 70011, BRYANSTON,

2021 REGISTRAR OF PATENTS DESIGNS,

TRADE MARKS AND COPYRIGHT

Received

2003 02 13

Official date stamp

Dated this 12 January day of

2003

Signature of applicant(s) or agent

The duplicate will be returned to the applicant's address for service as proof of lodgment but is not valid unless endorsed with official stamp.

REGISTRATEUR VAN PATENTE, MODELLE,  
HANDELSMERKE EN OUTEURSREG

Registrar of Patents

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PATENTS ACT, 1978

## REGISTER OF PATENTS

Official application No.	Lodging date: Provisional			Acceptance date	
21 2003/1190	22	2003-02-13		47	
International classification		Lodging date: Complete			Granted date
51	23				
Full name(s) of applicant(s)/Patentee(s): 71					
Applicants substituted: 71 TELEGENIX TRADING 954 CC 2002/0613/23					
Assignee(s): 71					
Full name(s) of inventor(s): 72 Alf Bernd Michael von Merveldt					
Priority claimed		Country	Number		Date
		33	31		32
		33	31		32
		33	31		32
Title of invention: 54 Pallet Bag					
Address of applicant(s)/Patentee(s) 74 Plot 240, 3rd Road, Chartwell, RANDBURG					
Address for service 74 P.O. Box 70011, BRYANSTON, 2021					
Patent of addition No. 61		Date of any change			
Fresh application based on P 015 (E)		Date of any change			

REPUBLIC OF SOUTH AFRICA  
PATENT ACT, 1978  
**DECLARATION AND POWER OF ATTORNEY**  
(Section 30 - Regulation 8, 22(i)(c) and 33)

PATENT APPLICATION NO.	21 01	52003/1190
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LODGING DATE	22
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FULL NAME(S) OF APPLICANTS
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71      **TELEGENIX TRADING 954 CC**  
2002/0613/23

FULL NAME(S) OF INVENTOR(S)
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72      **Alf Bernd Michael von Merveldt**

EARLIEST PRIORITY CLAIMED	COUNTRY	NUMBER	DATE
	33	31	32

NOTE: The country must be indicated by its International Abbreviation - see schedule 4 of the Regulations

TITLE OF INVENTION
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54      **Pallet Bag**

I/We    Alf Bernd Michael von Merveldt    (Member of TELEGENIX TRADING 954 CC)  
hereby declare that:-

- 1 I/We am/are the applicant(s) mentioned above;
- 2 I/We have been authorised by the applicants to make this declaration and have knowledge of the facts herein stated in the capacity of
- 3 the inventor(s) of the above invention is/are the person(s) named above and the applicant(s) has/have acquired the right to apply by virtue of an assignment from the inventor(s);
- 4 to the best of my/our knowledge and belief, if a patent is granted on the application, there will be no lawful ground for the revocation of the patent;
- 5 this is a convention application and the earliest application from which priority is claimed as set out above is the first application in a convention country in respect of the invention claimed in any of the claims; and
- 6 the partners and qualified staff of the firm of \_\_\_\_\_, patent attorneys, are authorised, with the powers of substitution and revocation, to represent the applicant(s) in this application and to be the address for service of the applicant(s) while the application is pending and after a patent has been granted on the application.

SIGNED AT

RANDBURG

THIS 12 DAY OF

February 2003

SIGNATURES

(No legalisation necessary)

- \* In the case of an application in the name of a company, partnership or firm, give full names of signatory/signatories,
- \*\* delete paragraph 1, and enter capacity of each signatory in paragraph 2.
- \*\*\* If the applicant is a natural person, delete paragraph 2.
- \*\*\*\* If the right to apply is not by virtue of an assignment from the inventor (s), delete "an assignment from the inventor(s)" and give details of acquisition of right.
- \*\*\*\*\* For non-convention applications, delete paragraph 5.

**REPUBLIC OF SOUTH AFRICA**  
**PATENTS ACT, 1978**

**PROVISIONAL SPECIFICATION**

(Section 30(1) – Regulation 27)

Official Application Number		Lodging Date	
21	01	22	
Full name(s) of applicant(s) 71 TELEGENIX TRADING 954 CC 2002/061313/23 (Member Alf Bernd Michael von Merveldt)			
Full name(s) of inventor(s) 72 Alf Bernd Michael von Merveldt			
Title of invention 54 Pallet Bag			

**Field of the Invention**

This invention relates to a packaging and handling system for granulated products that are packed in Intermediate Bulk Containers in the form of Woven Bulk Bags.

**Background to the Invention**

Traditional Bulk Bags are equipped with top lift loops, which allow a forklift or crane to lift the bag from the top. This is a low cost method for handling bulk cargoes.

The traditional bulk bag with top lifts has certain disadvantages under specific circumstances.

1. Storage Stacking: - Standard Forklifts have limited lifting heights (usually to between 2 and 2.6 meters).

When using a forklift truck to lift a standard 1 meter high bag by the lifting loops it is not possible to stack more than one bulk bag on another. In order to attain a more economical storage stack over 2 layers, bags must be lifted from the base. This can only be done by placing the bags on pallets and lifting the pallets and placing the bag and pallet onto the stack.

2. Packing of ISO shipping containers, and Closed Pantechicon type Trailer bodies: When packing such containers with bulk bags, the bags are bottom lifted into a stack, as the top lift method is impossible due to the roof height restriction of 2.34 meters in a shipping container. Once again pallets are required to stack bulk bags within the confined space of shipping containers.
3. Truck Loading lift restrictions – when packaging from ground level: - Trailer decks are normally elevated at 1.6 meters above ground. The Loading capacity of a trailer is up to 2.5 meters high from the deck. The accumulated legal maximum height of a load from the ground can therefore be 4.1 meters. The Lifting height restriction of a forklift requires the higher layers, to be loaded with a bottom lift method and again requires conventional pallets be used when loading trucks with bulk bags.
4. Wooden pallets are a health risk; - Many countries are placing restrictions on the shipment of untreated wooden products, due to the threat of dangerous bacteria, viruses, fungi, and insects that could be transmitted from country to country by this means. Untreated wooden pallets could affect the Health and Economy of the receiving country. Shipment of wood based packaging to certain countries, therefore, requires fumigation, of the wood and contents of the container, prior to dispatch.

Plastic and Steel Pallets would be an acceptable alternative, they are however, very expensive and not viable unless they form part of a reusable pool, which is difficult to manage on an international basis.

## 5 Wooden Pallets – are Heavy and Bulky :-

- 5.1 Tare Weight - An average wooden pallet weighs between 15 and 20 kgs, accumulatively in a shipping container this would add up to 400kgs of non income weight, which would have to be subsidized by the cargo, and is therefore a hidden cost, that needs to be addressed, by way of reducing the mass weight of the pallet. The Pallet Bag Fork Pockets weigh 3 kgs or 15% of the equivalent capacity wooden pallet.
- 5.2 Volume Space- An average 1-ton capacity pallet occupies a volume of .192 cubic meters @ 20 pallets per container this represents 3.84 cubic meters or 13.7% of the loadable volume in a container, which has to be subsidised by the cargo. This Wasted Space volume can be reduced to .032 cbm per Pallet, @20 pallets per container this represents .64 cubic meters or 2.2% of the loadable volume in a container by use of this invention.

### **Object of this invention.**

It is the objective of this invention

1. to provide a weight, volume saving integrated bulk bag that may be lifted from either the top or from the base.
2. to utilize modern inert materials, that may be recycled, and or disposed of in manner that is low in cost, and least damaging to the environment.

### **Summary of the Invention**

A flexible container, according to the invention, may be an integrated woven bulk bag with lift loops, and rectangular tubular shaped inserts within the base. The inserts provide access for the forks of a forklift truck so that the bag may be lifted from the base.

In a preferred form of the invention - a bag may be made from a woven, inert, flexible cloth, of Polypropylene, Poly Vinyl Chloride or any other suitable non toxic material, which may be sewn together, to form a 4 sided bag, with a top opening, and a base panel. The base may be specially constructed, with 2 flexible cloth sleeves, which are an integral part of the bag, and which will accommodate 2 rigid fork pocket inserts, hollow rectangular tubes, on 2 sides of the base of the bag.

In a further preferred form of the invention - the fork pocket inserts may be rigid in structure and made from an extruded plastic "Twin Walled Fluted Cellular Structured Panel" commonly known as Correx™ and or Corraplas™ or a similar plastic extrusion, or specially treated cardboard or an extruded tube of plastic or other suitable material. In the case of the fluted panel the material may be folded to form a rectangular tube, and for added structural strength, the tube may be formed by bending across the flute line. Flared collars may be provided around at least one end of each tube. These collars assist an operator to engage the forks into the tubes without damaging the surrounding container

In another form of the invention the top of the container may be provided with closure flaps so that when the container has been filled with a product the top may be securely closed or a container may have a closed top with a central conical cylindrical shaped filling chute that may be provided in the top surface for filling purposes. When the container is full the cone/tube may be twisted and secured to seal the top and prevent product loss during handling or transport

In still another form of the invention an additional a quick release mechanism may be provided in the bottom panel of a container to enable product to be released and flow from the container without having to turn the container over to pour the product from the container. This release mechanism may be in the form of a circular tube, conical or otherwise, situated centrally in the bottom panel of the container. A drawstring, cord or similar means may be provided to close the tube before filling and when released allow product to drain out from the container. An

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additional releasable safety cover may be provided to hold the closed tube in position. This cover must be opened before gaining access to the discharge tube when product is to be discharged.

Further according to the invention two lifting means may be provided. The first may be a set of four lifting loops made from lengths of braiding of which the ends may be sewn to the top area of the sides of the container to form four lifting points.

An option that may increase the stability of a container when being stacked may be the provision of a rectangular board of Correx™, Corruplas™ or similar material placed within the container between or resting on the tubes. This board may, if necessary have a central opening to allow product to flow downwards and out through the bottom discharge chute.

#### A brief description of the drawings

The various forms of the invention will now be further described with reference to the accompanying drawings in which:

- Figure 1** is a side an isometric view of a container without a top cover.
- Figure 2** is a view of a rectangular tube device for a forklift guide.
- Figure 3** is a view of an extruded board suitable for the manufacture of an rectangular hollow tube.
- Figure 4** is a sectional view YY through a rectangular tube.
- Figure 5** is a sectional view XX through a container having a tubular type filling device and a bottom discharge emptying device.

## Detailed description of the drawings

The Figure 1 of the embodiment of a container of the invention is shown in the drawing to consist of a topless boxlike container 10 made from woven or knitted non-toxic plastic material. The top edge 12 of the side panels may be turned over to form a seam, likewise the vertical corners 14 of the container mat be seamed and reinforced if necessary.

Four lifting handles 16 of woven braiding may be provided at the top corners for lifting purposes. These handles may be sewn 18 to the sides of the container.

A pair of rectangular sleeve type pockets 20 may be sewn along the base of two opposite sides the container. Rectangular tubes 22, to accept the forks of a forklift truck, may be places in the sleeves. The tubes may have splayed out flanges 24 to hold the tubes in position prevent them from being pushed through the sleeves by the forks.

A central, quick release discharge device 26 is located centrally in the bottom panel of the container.

A typical rectangular tube 24 is shown in Figure 2. A tube may be made from extruded polypropylene material of layered construction cut and folded to form a hollow rectangular tube. The flute line 26.1 of the board runs across the main axis of the tube. The corners of at least one end of a tube may be cut back and the ends of the top and two sides of the tube bent back to form stabilising flanges 24.

An isometric end view of a typical extruded corrugated board is shown in Figure 3.

The board is an extruded plastic that has two parallel opposite faces 26 and 28 separated by a series of diaphragms 30 forming longitudinal air channels 32 along the length, flute line 26.1 of the board.

Figure 4 shows a section Y-Y through a typical rectangular fork holding tube. The tube is made from a length of extruded corrugated plastic board cut and folded along the length of extrusion to form the rectangular shape. The tube has a top 26, a bottom 28 and two sides 30 and 32. The join, heat sealed or glued, along the length of the tube may be prepared by overlapping two edges of the board to form a double thick side member 32. The formation and construction of the double thick side increases the stability of the tube.

A section X-X through a container is shown in Figure 5. The container 10 is as previously described having lifting handles 16, tubes 22 for the forks of a fork-lift, and a bottom discharge device 26.

A filling device 34 is indicated in section and may consist of a short tube 36 and conical expansion piece 38 fixed to the top edges of a container. This device may be folded over, or tied closed and then folded over to seal the top of the container.

A length of flexible plastic material 40 is shown, sewn to the bottom 42 and a side member to form a sleeve to house a tube 22. The strength of the material forming the bottom of a container may be greater than that forming the sides.

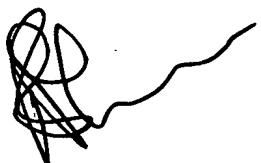
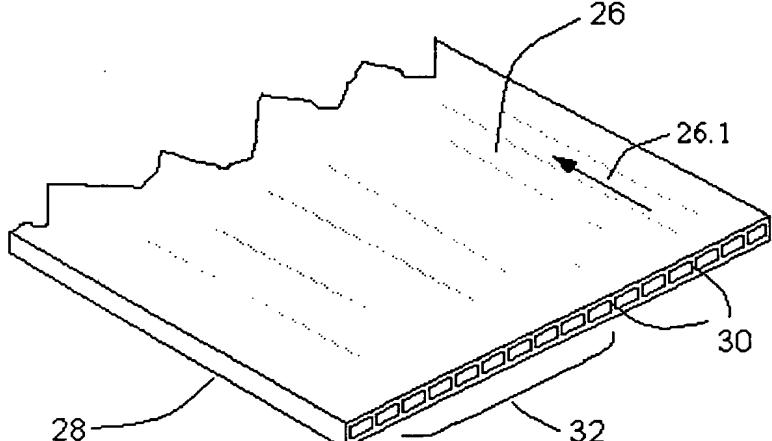
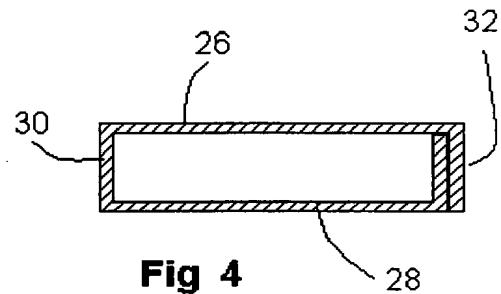
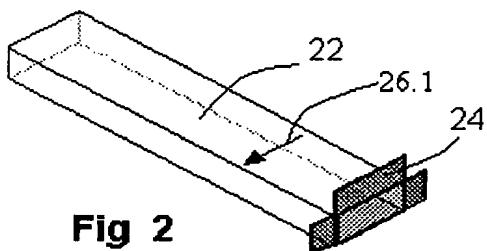
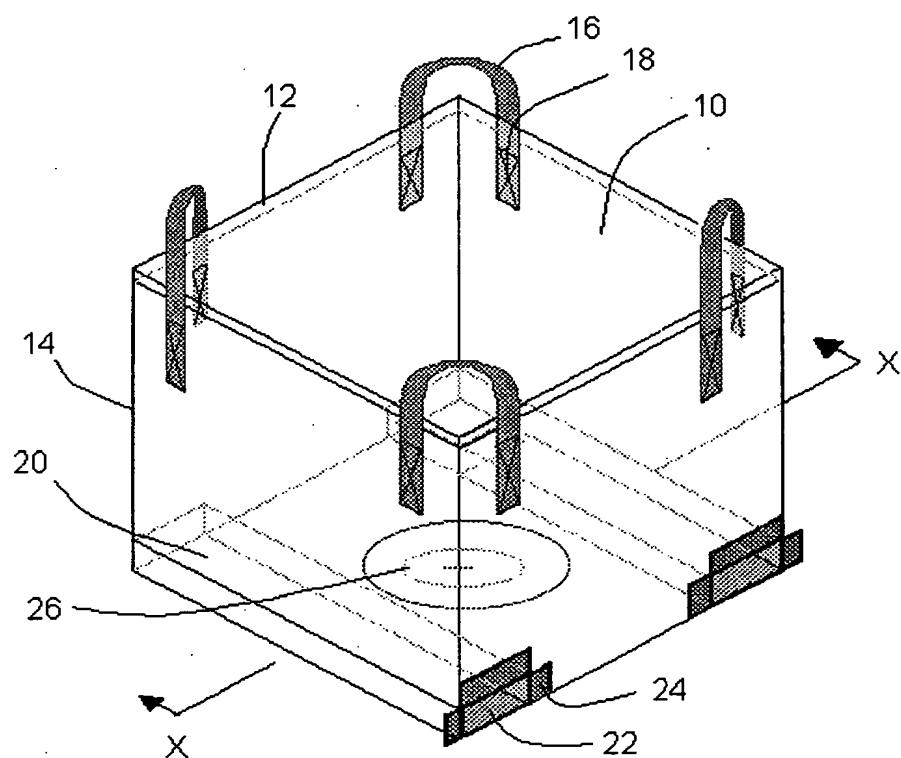
A bottom discharge device 26 is shown in section. A short tube 48 of flexible plastic material is sewn centrally into the bottom of the container. This tube may be drawn closed by a loop of cord 50 passing through a sleeve sewn around the bottom edge of the tube. A second flexible plastic tube 52 (shown to be slightly closed) of same diameter as the first tube but longer is also sewn to the short tube and bottom of the container. This tube may be used to throttle and control the rate

of flow if the product from the container. A draw cord or a length of cord 56 may be provided to close the tube as and when required.

In normal use the inner tube is tied closed and held in position by the short outer tube being drawn and tied closed. In this condition the bottom of the container is sealed and the container may be filled with product. The container may be lifted by slings or a forklift from above or a fork lift may lift from below as if it were standing on a pallet. The container may be held over a chute or whatever and the product drained out through the bottom of the container.

The foregoing description of the present invention is for purpose of explanation and illustration. It will be apparent to those skilled in the relevant art that modifications and changes may be made to the invention as thus described without departing from its scope and spirit.





2003/1190

Sheet 2 of 2

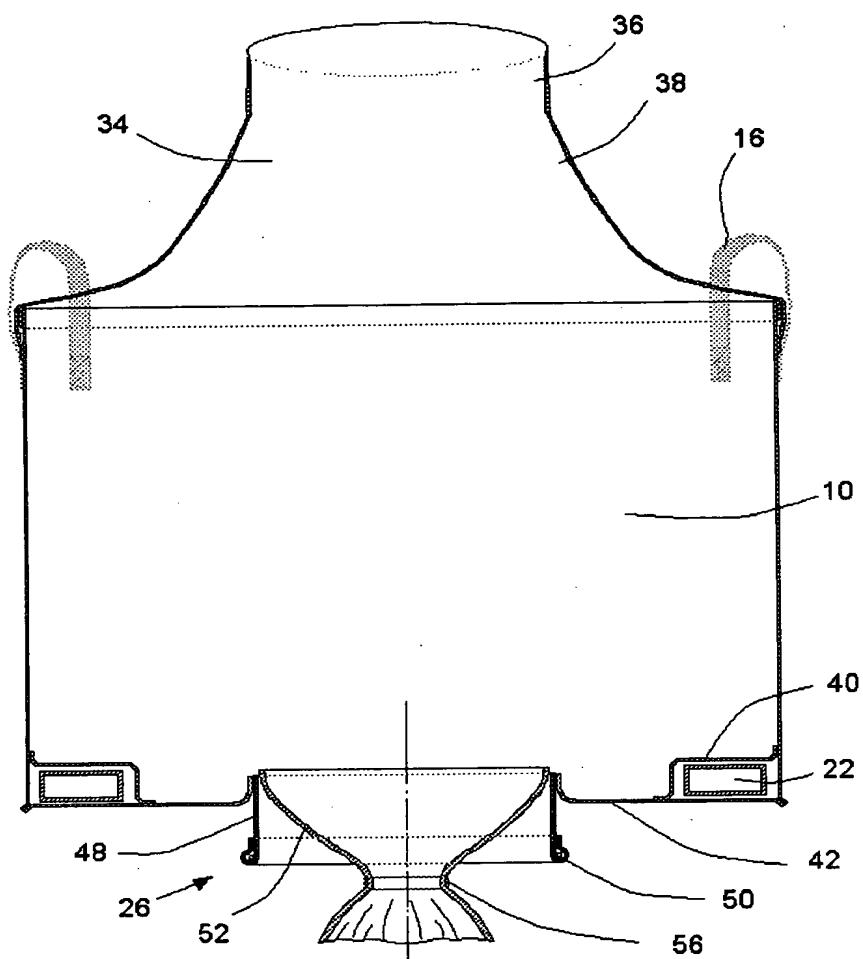


Fig 5

*[Handwritten signature or mark]*